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*Cases of Excision of the Rectum, with a Note on the Operation
of Inguinal Colotomy.* By F. T. PAUL, F.R.C.S.

THE operation of excision of the rectum for cancerous disease is yearly becoming more frequent; not, I think, because the operation is new, or the disease more common, but because cases formerly supposed to be outside the range of excision have been shown to be well within its limits.

I have in all only excised the rectum four times, and it is with very much regret that I recall several cases in which I have refused to operate, because the disease was somewhat more extensive than it was then considered prudent to interfere with.

My first case was operated on in 1881. The patient was a male, aged 47. He made a good recovery, and was shown at this Society four years later in good health, and quite free from recurrence. He had then been at his work as a bricklayer ever since the operation. There was no stricture of the rectum, and he had control over the motions, unless attacked with diarrhoea. My friend Dr Kellett Smith, who sent me the case, has been kind enough to ascertain that he is still in good health at the present time, ten years after operation. The growth was the size of a crown-piece, was a cylindrical-celled carcinoma, and is in the museum of the medical school.

The second case occurred in the practice of Dr Hugh Shaw, in May 1888. The growth was low down, and was the same

size and of the same nature as in the preceding case. The patient, a lady, made a rapid recovery ; but when I saw her last, some few weeks after the operation, there was a tendency to stricture. She died two years and two months later from recurrence of the cancerous growth.

It was only during the previous year, 1887, that Dr Alexander brought under our notice the great advantage to be obtained by removing the coccyx and lower part of the sacrum in cases requiring a more extensive excision of the rectum. It appears that a German surgeon, Dr P. Kraske, of Freiburg, had previously practised this operation in Germany, but Dr Alexander certainly introduced it into this country; and did for this extension of the operation what Mr Harrison Cripps had done for the reintroduction and successful establishment of the lesser proceeding.

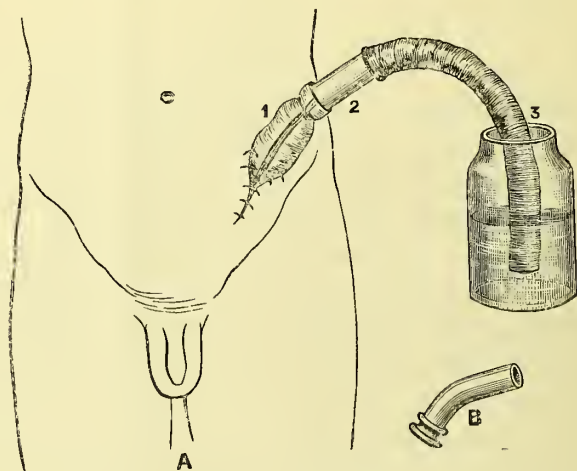
In February of last year Mr T. Eyton-Jones sent me from Wrexham a case of extensive cancer of the rectum in a man aged 46. His illness began in May 1889 with diarrhoea, which continued on and off till he was operated on. In June he first noticed blood and slime in the motions. Sometimes he passed nothing but slime. He suffered severely from pain over the lower part of the abdomen and back, which was usually relieved by the passage of motion. The constant loss of blood had rendered him very weak and anæmic. On admission he was well nourished, but very pallid. The rectum was painful and irritable. A good deal of mucus was passed, and he daily lost blood. On introducing the finger the anus was found to be normal; but $1\frac{1}{2}$ in. above a mass of cancer was met with surrounding the bowel, and constricting it. Beyond this thick infiltrated margin was a smooth, hard-walled cavity, corresponding to the internal aspect of the cancerous ulcer. The roof of this space could be touched with the finger, but its limits could not be defined. The growth was fixed posteriorly to the sacrum, but was slightly movable anteriorly.

Finding that I was unable to determine the extent of the growth, I thought it wise to cut off all communication with the bowel above before proceeding to excise the rectum, as I should

then have less hesitation in pulling down as much as might be necessary to get clear of the disease. In such a case as this it was essential that whatever form of colotomy was adopted the bowel should be severed, and the lower end closed; and when this is to be done, I think the inguinal or sigmoid operation is to be preferred much before Madelung's modification of the older lumbar operation. It is easier, quicker, and less dangerous. Several ways have been suggested for performing this operation, although comparatively so new. Mr Cripps picks up the sigmoid flexure, and passes it through his fingers till he reaches the highest part of the bowel which can be brought into the wound to prevent procidentia. This is then attached to the skin by sutures penetrating the serous and muscular coats only of the bowel. The opening into the bowel is not made until adhesion has taken place. Mr Allingham draws out of the wound as much sigmoid flexure as will readily come, and retains it in this position by sutures passing through the mesentery and the musculo-serous coats of the bowel. When adhesion has taken place, or the symptoms urgently demand it, he clamps the protruding bowel to save hæmorrhage, and cuts it off. Mr Jessett also draws the flexure out of the wound, but then divides it and invaginates each end, returning the lower into the abdomen, and leaving the upper protruding out of the wound. The patient is carefully managed as regards diet, so that this complete obstruction may be maintained for some days before the protruding portion of bowel is cut off, and an exit for fæces allowed.

In all these methods there is one decided disadvantage which did not attach to the older extra-peritoneal operation. It is the delay in affording relief in cases of obstruction. Now, although my case presented no urgent symptoms, I was desirous of opening the bowel at once; and that it might be done the more safely, I adopted the following plan:—The first steps of the operation were carried out on the lines suggested by Mr Jessett; the lower end of the bowel being invaginated and returned into the abdomen. But a wide glass tube was made to connect the upper end with an indiarubber tube, in order

that the fæces might be passed along it into an antiseptic solution from the first, while at the same time the peritoneal wound could be maintained in an aseptic condition. The pro-



A. Inguinal Colotomy. 1. The sigmoid flexure; 2. glass tube; 3. rubber tube passed into bottle of carbolic lotion.
B. Improved form of glass tube.

truding bowel was attached to the skin wound by ehromic gut sutures passed through the musculo-serous coats only. The wound was powdered with iodoform, and dressed with salicylie wool, which was perforated by the glass tube.

This sounds perhaps rather rough usage for such a delicate strueture as bowel; but really I doubt if it is as rough as producing a condition of complete obstruction. At anyrate the functions of the part are undisturbed. The course of the case was most satisfactory. The bowels were comfortably moved through the tube every day, the wound remaining aseptic. Three days after the operation the bowel began to give way on the under side of the glass tube. Had there been any want of union between the bowel and the wound, it would have been quite easy to have painlessly re-fixed the tube; but union was complete, therefore the excess of bowel was amputated, and motion allowed to flow direetly from the cut end. The colotomy wound continued to heal satisfactorily, and the rectum was

more comfortable. Blood ceased to come, but mucus was often passed. On March 24, just three weeks after doing the colotomy, I excised the rectum, following the steps recommended by Dr Alexander.¹

I met with no difficulty, except that it was necessary to open the peritoneum, and that a little hardness, probably malignant, was left attached to the right ureter in preference to injuring that structure. There was no difficulty in controlling the hæmorrhage. The amount of bowel removed was not accurately measured, but would be about 6 or 7 inches. The wound left by this operation is enormous, but it appears to heal well, the two sides falling together, and uniting much quicker than would be expected. He left the Infirmary on June 4, six weeks after the operation. I know that he is still living at Wrexham, but have not been able to obtain any details as to his condition of health and comfort.²

The second case was that of a woman in the Royal Infirmary left me by my colleague, Mr Banks, when he went for his summer holiday. It was one of obstruction of the bowels, and he considered that some operation to give relief should be performed without much delay. Her age was 37, and she was the mother of nine healthy children. There was no history of syphilis, and none indicating previous ulceration of the bowel. She always had been troubled with constipation, and during the past twelve months this difficulty had greatly increased. She was often attacked with colic, and could feel the bowels gather up into lumps in the front of her stomach. From August 4 to 7 she suffered from almost complete obstruction, and vomited the medicine given to relieve her. On August 8 she was admitted.

On examining the rectum with the finger, about $2\frac{1}{2}$ inches from the orifice was a large hard mass, infiltrating and surrounding the bowel, and tightly constricting it. The lump was as large as a medium orange. It had not destroyed the

¹ *Liverpool Medico-Chirurgical Journal*, July 1887, page 1.

² He subsequently returned to the Infirmary, and died from local recurrence, complicated with septic infection of the peritoneum due to necrosis of the cut end of the sacrum.

mucous membrane, which felt quite smooth up to the constriction. The abdomen was distended, and the hard coils of intestine could plainly be felt. She was a good deal pulled down by the distress recently suffered, but still had sufficient strength to warrant me in undertaking excision of the rectum in place of colotomy.

I operated in the same way as in the last case, removing about 6 inches of bowel, and stitching the orifice to the skin, just below the cut edge of the sacrum. Here again I had to open the peritoneal cavity, which, after pulling down sufficient bowel, was closed with fine catgut sutures. If the operation is carefully performed, and the rectum not cut off until it is completed, I doubt if as much harm results from opening the peritoneum as from the handling and delay in attempting to carefully skin it off an abnormal bowel. In this case the gut was greatly hypertrophied, having almost the thickness and capacity of a horse's rectum above the stricture. Fæcal matter flowed as a continuous discharge from the bowel for a week or two. Then natural motions began gradually to be resumed, but she did not acquire control over passing them before she left us. The large wound healed well, and the patient was restored to health and comfort. I hope by this time the parts have resumed more of their natural appearance and functions. When she went home the orifice of the bowel had greatly shrunk and improved in appearance. At first it looked like a hose-pipe cut across, and measured $2\frac{1}{2}$ inches in diameter; but when she left the thick muscular walls had atrophied, and the terminal mucous membrane was assuming a rosette-like appearance.

In concluding the narration of these cases, I wish to say that the advantage to the patient of excision of a cancerous rectum has seemed to me unquestionable, even when as extensively diseased as in the man from Wrexham. In operating upon him, I hardly hoped for a permanent cure. The relief from constant distress, if only for a few months, is worth the operation, and the relief following excision of the diseased part is immeasurably greater than that afforded by colotomy alone.